

Median carina slightly raised anteriorly; outer carinae normal. Spines moderately long, the tips dark fuscous. Reticulations of the hood moderately large, slightly larger than those of the paranota. Tumid elevations of the elytra normal; costal area triseriate, the outer margin slightly concave.

A small spot on the paranota, another on the median carina, and greater part of the dorsal portion of the hood dark fuscous. Body beneath blackish, sometimes slightly tinged with reddish. Nervures whitish. Elytra with a band across the base, another near the apex, a spot on the paranota, part of the inner portion of sutural area dark fuscous. The apical band of the elytra without large hyaline cells; some cells with tiny hyaline centres. Legs and antennae yellowish white.

Readily separated from the hazelnut tingid, *Corythucha coryli* Osborn and Drake, by the much less elevated hood. Akin to *C. bellula* Gibson, from which it may be distinguished by slightly longer spines, the globose portion of the hood being much less narrowed dorsally and not distinctly angulate at the crest, darker colour pattern, the apical band of elytra without large hyaline areolae.

DESCRIPTIONS OF FOUR NEW PARASITIC HYMENOPTERA.

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Tetrastichus rugglesi, new species.

Female.—Length 1.75 mm. Subopaque dark blue, without sculpture; intraocellar line subequal with the ocellular line; antennae eight-jointed; one ring joint a three-jointed funicle and two-jointed club; funicle joints subequal in length and subequal in length with the pedicle; club one-fourth shorter than two funicle joints, pointed apically, the apical joint longer than the preceding one; mesonotum with a rather faint median furrow; scutellum with two well-defined furrows; propodeum smooth, shining; prepectus sculptured like mesopleure, i. e., smooth and shining; abdomen ovate, ovipositor sheath slightly exerted; costal margin of hind wing with one spine. Antennae brown; scape, tibiae and tarsi and narrow apices of femora yellowish-white (tibiae somewhat infuscated medianly); wings hyaline, venation yellowish.

Type-locality.—University Farm, St. Paul, Minnesota. Described from eleven females (one type) reared as parasites of *Agrilus arcuatus* by A. G. Ruggles. Material reared July 24, 1916, (type), July 11, 1916, and September 16, 1915.

Type.—Cat. No. 22132. U. S. Nat. Mus.

Trigonura hicoriae, new species.

Female.—Length 4.5 mm. Head with large umbilicate punctures; area between eyes about one-fourth greater than length of eye; antennal foveae smooth; antennae thirteen-jointed with one ring joint; ocellular line slightly shorter than the interocellar line, and not much greater than the greatest diameter of a lateral ocellus; thorax with large umbilicate punctures, smaller and closer on the prothorax; the depressed area of mesepisternum in which the middle leg fits transversely striate; legs shining with very fine scattered punctures; hind femora with eight teeth, the three apical teeth close and smaller, the posterior one well removed from the others; abdomen shining, the apical segment with large, irregular setigerous punctures. Black; a yellowish spot on venter; four

anterior knees and all the tarsi yellowish-brown; wings hyaline; marginal and stigmal veins black; a brown spot basad of stigma.

Male.—Length 4.25 mm. Except for usual differences, like female. Venter without yellow.

Type-locality.—Syracuse, New York. Described from two females and five males reared from *Hicoria glabra* by M. W. Blackman and H. H. Stage and under their numbers H-171 (type), H-114 (allotype), H-955, H-134, H-892, H-1367 and H-212.

Type.—Cat. No. 22093, U. S. Nat. Mus.

***Ecphylus hicoriæ*, new species.**

Readily distinguished from related American species by its colour and sculpture.

Female.—Length to apex of abdomen 3 mm.; length of ovipositor 2.5 mm. Face granular and with irregular transverse, raised lines; frons and vertex with distinct transverse striæ; posterior orbits smooth; postocellar line about half as long as ocellular line; antennæ 27-jointed, the third joint distinctly shorter than the fourth; pronotum with lateral angles prominent; prescutum punctured, and with a median impressed longitudinal line; notauli foveolate; scutellum without sculpture; propodeum coriaceous, reticulate in apical dorsal middle, a faint dorsal median longitudinal carina and a transverse carina at top of posterior aspect; recurrent interstitial with intercubitus; first tergite one-fourth longer than apical width, with distinct longitudinal striæ, these more prominent laterally so there is a triangularly-shaped median area which is not so coarsely striate, remaining abdominal segments smooth, polished. Black; abdomen beyond first segment rufous; basal joints of antennæ and legs yellowish-ferruginous; pronotum anteriorly and lower part of mesepisternum rufous (may not be constant); wings hyaline; venation dark brown.

Male.—Length 3 mm. Agrees with female except for usual differences.

Type-locality.—Syracuse, New York. Described from three females and one male reared from *Hicoria glabra* by M. W. Blackman and H. H. Stage, and recorded under their numbers H-972 (type), H-956, H-947 and H-118a (allotype).

Type.—Cat. No. 22030, U. S. Nat. Mus.

In the male and in one female the frons are partly ferruginous.

***Heterospilus blackmanni*, new species.**

Because of the colour and length of ovipositor this new species would be grouped with *consimilis* Ashmead, but the sculpture is quite different from that species.

Female.—Length to apex of abdomen 2.55; length of ovipositor 2.5 mm.; length of abdomen 1.25 mm. Head smooth, polished; ocelli in nearly an equilateral triangle; inner margins of eyes parallel, the distance between them somewhat greater than their length; antennæ, 20-jointed, the third joint about one-fifth longer than the fourth; scutum and prescutum shining, practically without sculpture; notauli well defined, not foveolate; suture in front of scutellum finely foveolate; scutellum smooth, shining; dorsal lateral areas of the propodeum polished, median carina distinct; posterior face of propodeum finely coriaceous; first tergite about one-sixth longer than apical width, with distinct longitudinal

striae; base of the second tergite longitudinally aciculate; most of the second and all of the remaining tergites smooth, polished; mesepisternum smooth; sides of the propodeum sculptured like the posterior face; second abscissa shorter than the first intercubitus; recurrent slightly beyond the intercubitus. Black; mandibles, three basal joints of antennae and the legs yellow; wings hyaline, venation pale brown, stigma somewhat darker.

Male.—Length 2 mm. Agrees well with female except the second tergite is yellowish.

Type-locality.—Syracuse, New York. Described from five females and one male collected by M. W. Blackman and H. H. Stage from *Hicoria glabra*, and recorded under their numbers H-107 (1 type), H-608, H-1141, H-118 and H-608a (allotype).

Type.—Cat. No. 22031, U. S. Nat. Mus.

NEW NEARCTIC CRANE-FLIES (RHYPHIDÆ AND TIPULIDÆ, DIPTERA) PART VII.

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FAMILY *Rhyphidæ*.

Trichocera colei, new species.

Thoracic stripes indistinct; wings light grey, yellowish at the base, a faint brown cloud on *r-m*; male hypopygium conspicuously enlarged.

Male.—Length, including the hypopygium, about 7–7.5 mm.; wing 6 mm.

Rostrum and palpi dark brown. Antennae of the male setaceous, black. Head dark grey.

Mesonotum brownish grey without distinct stripes, the posterior half of the scutellum yellowish; postnotum dark. Pleura dark brown, sparsely grey pruinose. Halteres pale, the knobs dark. Legs light brown, the coxæ, trochanters and bases of the femora paler. Wings with a faint grey tinge, the base of the wing yellowish; stigma brown, diffuse; a brownish cloud on *r-m*. Venation: *Sc* ending slightly before *r*; R_{2+3} a very little longer than R_2 before *r*.

Abdomen dark brown, the incisures paler. Male hypopygium conspicuous, very large for this genus of flies. Pleurites with a group of setae near the distal end on the inner face. Pleural appendage longer than the pleurite, at the apex enlarged into a blackened lobe which is densely covered with short, erect, yellowish hairs; on the dorsal inner face near the base of this lobe, a slender cylindrical arm. Penis-guard broad at the base, rapidly narrowed to the blunt tip. Gonapophyses in the form of two strongly divergent chitinized horns.

Habitat.—Oregon.

Holotype.—♂, Forest Grove, Washington Co., November 11, 1918, (F. R. Cole). Type in the collection of the author. *Paratype*.—♂, Vancouver, Washington, Dec. 12, 1918, (Wm. Giles); reared from turnips. In the collection of the U. S. National Museum, Chittenden, No. 2772.

The conspicuous male hypopygium will easily separate the fly from any of the known American species. The species is dedicated to Mr. Frank R. Cole to whom I am indebted for many favours.